

**CUWA
STUDY OF DRINKING WATER QUALITY IN DELTA TRIBUTARIES
SUMMARY OF JULY 14, 1993 PAC MEETING**

July 21, 1993

The first Project Advisory Committee (PAC) meeting for the Study of Drinking Water Quality in Delta Tributaries was held on July 14, 1993. The meeting agenda and list of attendees are attached.

INTRODUCTION--Lyle Hoag

Lyle introduced the meeting by making three main points:

1. Agencies, other than California Urban Water Agencies (CUWA) member agencies, are invited to participate in the PAC for this project as formally or informally as they wish. The PAC meetings are a substantive avenue for guiding the project.
2. The purpose of this project is to collect and evaluate existing information on the Delta tributaries in one report. Original research work is not envisioned for this project.
3. The emphasis in this project will be on the Delta tributary system with discussion on the Delta itself as needed.

OVERVIEW OF THE PROJECT--Elaine Archibald

Elaine introduced the project team members and discussed the process for soliciting information from the PAC. Brown and Caldwell will: 1) transmit a draft technical memorandum to the PAC members for review prior to the PAC meeting; 2) the PAC meeting will be held to discuss the content of the technical memorandum and obtain PAC member guidance and consensus, as appropriate; and 3) the technical memorandum will be finalized. It is envisioned that the technical memoranda will form much of the body of the report.

REPORT ON MONITORING PROGRAMS

Sacramento Area Monitoring Programs - Elaine Archibald

1. Sacramento Stormwater Monitoring Program--3 years worth of data have been collected on urban runoff and receiving water quality. Constituents are focused on metals, but also include some coliform and organics data.
2. Sacramento Regional Wastewater Treatment Plant (SRWTP)--The SRWTP conducts monthly and quarterly effluent monitoring. In addition, every 2 weeks they conduct monitoring on the effluent and the Sacramento River (both upstream and downstream of the effluent outfall) for TOC, metals, etc.

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3. Coordinated Monitoring Program--Currently monitoring is conducted in the Sacramento and American rivers every 2 weeks for a variety of constituents.

Many of the constituents of concern to the Delta tributary study are not monitored by the Sacramento projects.

USGS Pesticide Study - Steve Deveral

1. Bay Delta Toxics Study--Monitoring is being conducted in the Sacramento and San Joaquin rivers and the Delta for pesticides applied as dormant sprays on orchard crops (January and February) and alfalfa crops. Sampling locations are Sacramento River at Tower Bridge and at Rio Vista, San Joaquin River at Vernalis, Chipps Island and Martinez in the Delta. Sample collection has been occurring daily. Chris Foe at the Regional Water Quality Control Board, Central Valley Region (Regional Board) has conducted concurrent toxicity studies. The prevalent pesticide seen is diazinon in concentrations well below drinking water standards. The detection limit is 15 ng/l. Key conclusions are: 1) rainfall is the transport mechanism; 2) although concentrations are higher in the San Joaquin River, the loads are higher in the Sacramento River; and 3) the concentrations are lower as the water moves through the Delta. Most diazinon is in the dissolved form. A related issue is degradation of the pesticides. Half-life estimates vary considerably. Steve will send the Fact Sheet being developed on this monitoring program to Elaine. Steve also discussed briefly the relationship between carbon dioxide leaving the system and subsidence in the Delta. He will send a report on this issue, also.

Some discussion ensued on how best to address the pesticide issue in this project. It was decided that the original intent to summarize the existing pesticide work will be adhered to and that this will also lay out concerns and identify future work. Some concerns mentioned were: 1) to discuss the success in lowering rice herbicides and pesticides through farm management practices; 2) the probable need to conduct more pesticide monitoring during storm events with lower detection limits than used in other previous studies; and 3) although the pesticide levels are below drinking water standards, CUWA should have a continuing concern about potential human (mainly infant and prenatal) health risk as well as concern about toxicity to aquatic biota.

Department of Water Resources (DWR) Monitoring - Rick Woodard

1. Municipal Water Quality Investigation Program - This program is focused on several concerns in the Delta: 1) the relatively uncontrolled nature of the watershed, and 2) the doubling of total organic carbon (TOC) and total trihalomethane formation potential (TTHMFP) from Greene's Landing to the south Delta. Some monitoring has also been done on the Colusa Basin Drain and the Natomas East Main Drain. The program did a good job of identifying pesticide use in the watershed. Failure to detect many of the pesticides identified may be due to high detection limits (around 0.5 ug/l on the average). Currently the program is conducting an expanded study of the Delta drains (45 of 260 total Delta agricultural drains are being sampled). Drainage volume information is not yet as well developed. Drainage volume is being estimated from PG&E power records

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and pump efficiency ratings. Restrictions on the use of the PG&E data may mean that volumes cannot be reported for individual drains but must be reported township sections.

Metropolitan Water District (MWD) - Roy Wolfe

Monitoring efforts have focused on regulated contaminants - Disinfection by-products (DBPs) and microbial agents. Also some monthly simulated distribution system THMFP samples collected. Microbial agents (Giardia, Cryptosporidium and enteric viruses) were collected monthly (for 1 year) at Greene's Landing, Banks Pumping Plant, the Delta Mendota Canal, and the State Water Project Aqueduct in Kern County. MWD also has one year of data on other DBPs. The report will be available in early August. There have been difficulties in getting cyst counts due to the high turbidity of the water. A lower detection level is achievable at Greene's Landing than further downstream, making interpretation of the data difficult. Cryptosporidium is more prevalent than Giardia. Quite a few viruses have been found.

Alameda Count Water District (ACWD) - Doug Chun

ACWD has not done any in-Delta monitoring. They have plant operational data (mostly physical, some organic constituents) and have done some treatability studies. They are planning to do ozone and GAC treatability studies.

Contra Costa Water District (CCWD) - Austin Nelson

CCWD has conducted monitoring at their intakes (Rock Slough and Mallard Slough) as well as in the Contra Costa Canal where the water enters a forebay. They have monitored for a variety of constituents at varying frequency. In the forebay, the water is blended with water from other sources.

Santa Clara Valley Water District (SCVWD) - Walt Wadlow

SCVWD has conducted monitoring in the South Bay Aqueduct for Giardia and Cryptosporidium. However the aqueduct receives local agricultural drainage and may not be representative of in-Delta water. They have also monitored for Giardia and Cryptosporidium in the CVP water from San Luis Reservoir.

East Bay Municipal Utility District (EBMUD) - Elaine Archibald

Dale Newkirk sent information on EBMUD's Alternative Source Monitoring Program. About 10 years of data were collected at Greene's Landing and Clifton Court for many constituents, but not for the microbial constituents of concern to this study. This monitoring was discontinued two years ago.

Los Angeles Department of Water and Power - Elaine Archibald

Gary Stolarik called to say that he could not attend the meeting. He will send information on their monitoring work at a later date.

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Other Monitoring Information

1. Rick Woodard mentioned that DWR Northern District may be conducting some pesticide monitoring.
2. Bert Ellsworth mentioned that Carmichael Water District is doing some microbial monitoring along the lower American River.
3. Bill Johnson suggested calling Larry Kolb at the Regional Board for additional information on Regional Board monitoring work.

MANAGEMENT ALTERNATIVES

A brief presentation was made on each of the management alternatives as described in draft Technical Memorandum No. 1. The following discussion relates to PAC comments on the alternatives.

Rerouting Sacramento River Agricultural Drainage--Jeanne Wallberg

Additional points that were raised included:

1. The effect on water rights of downstream users.
2. The entrainment of some of the rerouted discharge through Georgiana Slough to the south Delta pumps.
3. The Yolo Bypass is a winter run salmon migratory route and the Department of Fish and Game has expressed concerns about temperature effects on the salmon in the Yolo Bypass.
4. Bill Johnson suggested contacting Rudy Schnagle and Chris Foe for drainage volume information.

Rerouting Delta Agricultural Drainage - Marvin Jung

Some discussion occurred about how to address this issue in this project. It was decided that at this time we will not consider this an alternative but will quantitatively evaluate the effect of removing agricultural drainage from the Delta and then look at the other alternatives in terms of their effect with the Delta agricultural drainage removed and without it removed.

Diverting Sacramento Wastewater - Paul Selsky

Comments on this alternative included:

1. Including tertiary level treatment as an option to be evaluated.

2. SRWTP has had dechlorination control system problems with their 2-mile effluent pipeline in the past. If the length of the pipeline is increased this may aggravate those problems.
3. The alternative should be discussed with the State Water Resources Control Board Water Rights Division.
4. There is a potential for botulism in birds under the land disposal alternative.
5. The reason for not looking at other treatment plants such as Stockton and Tracy is due to the relative size of those plants compared to the SRWTP. The possible impact on water quality of the other plants will be discussed in the project report.

Urban Runoff BMPs - Jeanne Wallberg

After much discussion about being able to assess the impacts of urban runoff BMPs, it was decided that a sensitivity analysis would be conducted to determine the impact of removing 100 and 50 percent of the load of urban runoff contaminants to determine the impact on drinking water quality.

Eliminating Sacramento CSO Overflow - Paul Selsky

There are monitoring data available as part of the Sacramento CSO study.

Other Alternatives - Elaine Archibald

John Coburn had asked Elaine to discuss San Joaquin River alternatives - specifically the potential for desalinating San Joaquin River water or agricultural drainage discharged to the river. Steve Yeagar mentioned that the South Delta Water Agencies (SDWA) have prepared a report which discusses holding agricultural drainage in the ground and releasing it to the San Joaquin River only during high flow conditions. Mr. Orlov at the SDWA is the person to contact for this report. Bill Johnson commented that fisheries would be an issue in that practice. Mike McGuire thought there had been a desalting study done some time ago. Rick Woodard thought that study showed pretreatment necessary to avoid fouling the membranes but that the study was not completed. Bill Johnson suggested deep well injection as an alternative. Steve Yeagar suggested that land retirement might be an alternative. Steve Deveral thought that the land being retired under the Bureau Title 34 program may not all be tributary to the San Joaquin River.

After some discussion, it was decided to look at the San Joaquin River similarly to the way in which mine drainage will be handled. This will not be a full-blown consideration of various alternatives but will involve a summary and perhaps an estimate of the effect of removing Mud and Salt Slough drainage from the San Joaquin system.

Elaine asked whether alternatives should be examined that deal with the east side streams (Calaveras, Mokelumne and Cosumnes rivers). It was decided that the effects of urbanization and increased economic activity in those watersheds would be examined on a gross population projection and unit basis.

Land retirement in the Delta was briefly discussed. Steve Deveral cautioned that flooding Delta islands may not improve the dissolved organic carbon (DOC) levels. Rick Woodard said the Delta Islands Wetlands Project report is not yet available and that the report (when available) may just be mentioned in this project report.

CONTAMINANTS OF CONCERN - Mike McGuire

Mike briefly discussed a matrix chart relating the contaminants of concern to the various alternatives. This matrix primarily shows where there are expected holes in the data needed to conduct the study. The next step is to gather the data and determine the adequacy of the data for conducting this study.

CONTAMINANT SOURCES AND BENCHMARK LOCATIONS - Mike McGuire

Mike reviewed the contaminant sources and benchmark locations presented in the Brown and Caldwell proposal. He proposed adding the North Bay Aqueduct as a benchmark location for the alternatives that may affect North Bay Aqueduct water. The PAC members agreed with this change.

ACTION ITEMS AND NEXT MEETING- Elaine Archibald

Elaine asked that the PAC members who had offered to send reports or data please do so. The project team will finalize Technical Memorandum No. 1 and start gathering and evaluating the data. She will schedule the next meeting for September or October. PAC meetings will be held on Wednesdays. Elaine will send out a meeting notice approximately one month in advance of the meeting.